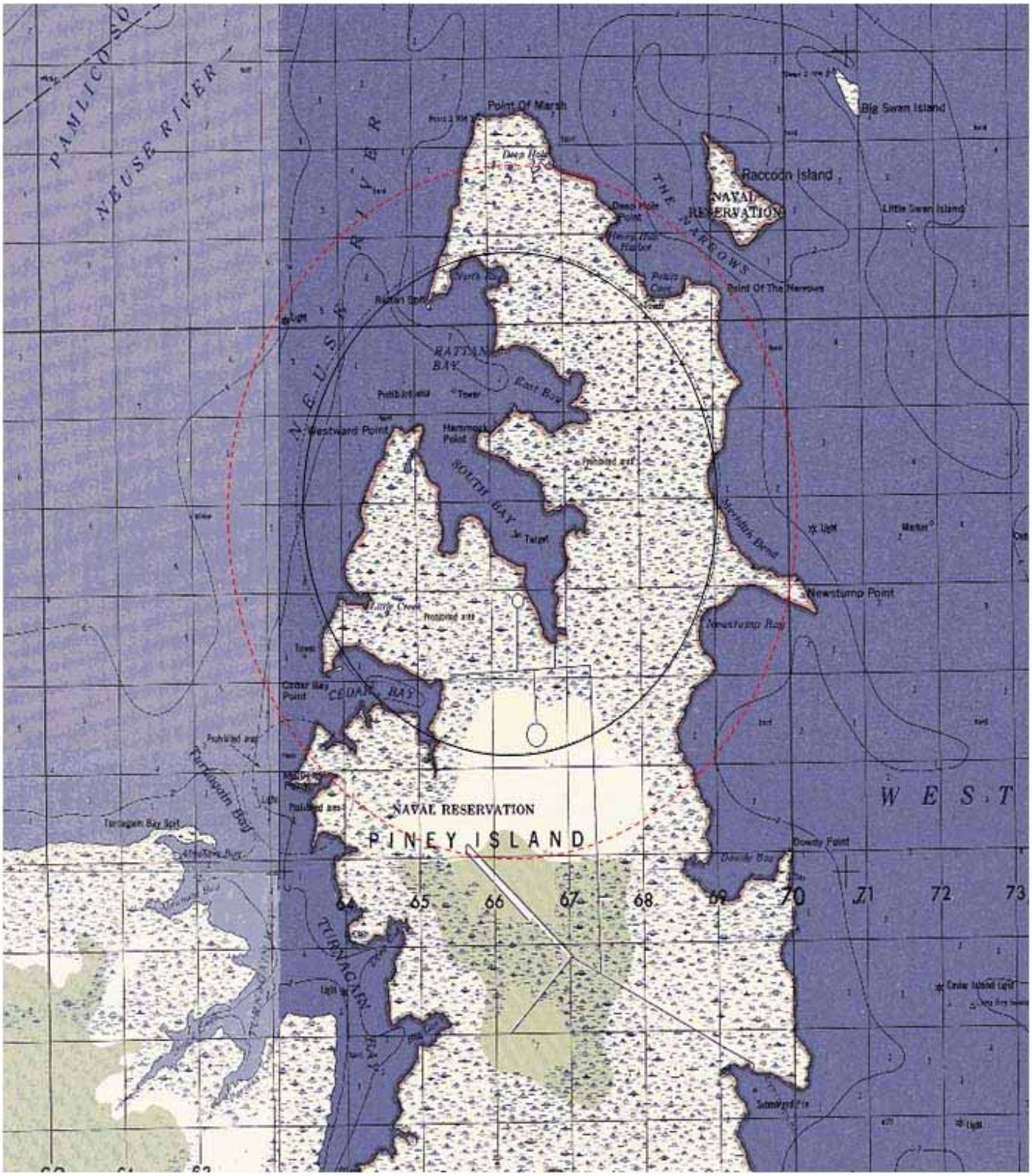
MCAS Cherry Point

Bombing Target 11

(Piney Island)

Environmental Assessment Summary of Facts


PAMLICO SO.
NEUSE RIVER
NEUSE RIVER
Point Of Marsh
Big Swan Island
Raccoon Island
NAVAL RESERVATION
Little Swan Island
THE NARROWS
Point Of The Narrows
RATTAN BAY
Rattan Bay
Tower
Westward Point
Hammock Point
SOUTH BAY
Newstump Point
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Acronyms and Abbreviations

ac	acre(s)
ADNL	A-weighted Day-Night Level
AEC	Area of Environmental Concern
AIWW	Atlantic Intracoastal Waterway
AOIs	Areas of interest
BNOISE	Blast Noise Prediction
BT-	Bombing Target
cal	caliber
CAMA	Coastal Area Management Act
CDNL	C-weighted Day-Night Level
CFR	Code of Federal Regulations
CURRS	Consolidated Utilization Range Report System
CZMA	Coastal Zone Management Act
dB	decibel(s)
dBA	A-weighted decibel(s)
dBC	C-weighted decibel(s)
DNL	Day-Night Level
DoD	Department of Defense
DoN	Department of the Navy
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FONSI	Finding of No Significant Impact
ft	feet
FY	fiscal year
ha	hectare(s)
kg	kilogram(s)
km	kilometer(s)
lb	pounds
m	meters
mm	millimeters
MC	munitions constituent
MCAS	Marine Corps Air Station
MCALF	Marine Corps Auxiliary Landing Field
MCB	Marine Corps Base
MCOLF	Marine Corps Outlying Landing Field
mi	mile(s)
MMPA	Marine Mammal Protection Act
n/a	Not applicable
NAVFAC	Naval Facilities Engineering Command
NCAC	North Carolina Administrative Code
NEPA	National Environmental Policy Act
nm	nautical mile(s)
NMFS	National Marine Fisheries Service
NOAA	National Oceanic Atmospheric Administration
NRHP	National Register of Historic Places
OEIS	Overseas Environmental Impact Statement
ppm	parts per million
psu	practical salinity units
REVA	Range Environmental Vulnerability Assessment
SAFMC	South Atlantic Fishery Management Council
sq km	square kilometer(s)
sq mi	square miles
sq nm	square nautical mile(s)
sm	statute mile(s)
TOW	tube-launched, optically-tracked, wire-guided
UAS	Unmanned Aerial Systems
µg/m^3	micrograms per cubic meter
µPa	micropascals
US	United States
USC	US Code
USDA	US Department of Agriculture
USFWS	US Fish and Wildlife Service
USMC	US Marine Corps

Executive Summary

The United States Marine Corps exists to meet the security needs of the Nation, and respond to crisis and conflict worldwide. To meet deployment requirements and remain skilled in the full spectrum of operations, Marines must train to a broad range of skills. Training is the *primary* means for developing, maintaining and improving proficiency in operational tactics and techniques using advanced weapons systems.

This package summarizes the Marine Corps Environmental Assessment (EA), conducted through the National Environmental Policy Act (NEPA), to determine the environmental impact of training operations in the MCAS Cherry Point Range Complex. The operational training tempo at MCAS Cherry Point Range Complex must increase to accommodate the pre-deployment training required to maintain a capable expeditionary force in readiness.

The Navy and Marine Corps conduct highly integrated training activities in three adjoining range complexes: Navy Cherry Point, Marine Corps Air Station (MCAS) Cherry Point, and Marine Corps Base (MCB) Camp Lejeune. The Navy and Marine Corps have recently analyzed the potential environmental effects of their combined training activities in separate and distinct environmental documents for the range complex(es) over which each has cognizance:

- Navy Cherry Point Range Complex Final Environmental Impact Statement (FEIS)/Overseas Environmental Impact Statement (OEIS) considers training activities in the sea and undersea space of the Cherry Point Operating Area; overlying special-use airspace and coastal areas from the mean high tide line, up to and extending seaward to the western Cherry Point Operating Area boundary
- MCAS Cherry Point Range Operations Environmental Assessment (EA) considers training activities on the air station; its outlying and auxiliary landing fields; its two impact areas in Pamlico Sound; and overlying special-use airspace
- MCB Camp Lejeune Range Operations EA considers training activities on the installation’s many ground ranges, impact areas and overlying special-use airspace

Each document addresses direct, indirect and cumulative impacts of Navy and Marine Corps training activities that occur on that particular range complex, and identifies mitigation and protective measures. The Navy and Marine Corps coordinated their public outreach efforts to provide the public with access to clear, accurate information regarding the three environmental planning efforts.

The environmental impacts of the total influx of personnel that is expected at MCAS Cherry Point in the coming years in relation to achieving a balanced growth in capability throughout the Marine Corps are being analyzed in a separate document (United States Marine Corps Grow the Force at MCB Camp Lejeune, MCAS New River and MCAS Cherry Point, North Carolina EIS).

FACT SHEET

What training currently occurs at the MCAS Cherry Point Complex?

- LAND based training activities take place at the main air station, Bombing Target 11 (BT-11), and on two outlying landing fields: Marine Corps Outlying Landing Field Atlantic, and Marine Corps Auxiliary Landing Field Bogue. Examples include combat engineer field exercises, base camp exercises, ground convoy escort training, vehicle convoy training, airfield attack and seizure, aircraft and helicopter refueling and rearming, fuel transport, field bivouac (a temporary encampment in the open), navigational exercises and communications exercises. Training also includes field maneuvers, air-to-ground training, small arms training and explosives handling.

- WATER based training activities take place at Bombing Target 9 (BT-9) and BT-11, which support various small boat and amphibious craft operations by military and federal security agencies. Training activities at both bombing target ranges consist of insertions and extractions, air-to-surface training, surface-to-surface training, small arms training, explosives training, rescues, interdictions, and platform/ integration testing and training.

- SPECIAL USE AIRSPACE training activities and exercises take place over BT-9, BT-11, and the two outlying landing fields. Training exercises involving Marine Corps Outlying Landing Field Atlantic consist primarily of rotary-wing operations to both BT-9 and BT-11. Helicopter squadrons use these training areas for air-to-ground, tactics, low-altitude and electronic warfare training exercises. Examples include insertion/extraction training with night vision goggles and inert air-to-ground weapons delivery operations. Air-to-ground ranges and water-based targets in the MCAS Cherry Point Range Complex provide various air-to-ground and air-to-water surface training for units from MCAS Cherry Point, MCB Camp Lejeune, Fleet Forces Command units, as well as Army, Navy, Air Force and Coast Guard units. BT-11 is the air-to-ground range and BT-9 provides for air-to-water surface training.

ORIGINAL ALTERNATIVES:

The alternatives analyzed in the final version of the MCAS Cherry Point Range Complex EA changed from the alternatives found in early draft copies of the document. The original alternatives included:

NO ACTION ALTERNATIVE: The Marine Corps has been conducting training operations in the MCAS Cherry Point Range Complex for more than 65 years. The No Action Alternative would maintain current levels and types of training operations at MCAS Cherry Point on existing ground ranges, water ranges and in special use airspace within and adjacent to the installation, using existing vehicles, aircraft, munitions and weapons. There would be no changes to restricted surface water areas at the BT-9 and BT-11 ranges.

ALTERNATIVE 1: Provide the current level of training operations within the MCAS Cherry Point Range Complex that occur under the No Action Alternative with additional training increases that would include:

- An increase in sortie-operations and munitions usage associated with rotary-wing aircraft (CH-53, AH-1 and UH-1) squadrons,
- An increase in small arms range activities on the main air station,
- An intermittent expansion of the water danger zone at BT-11 to better accommodate training in .50 caliber weapons delivery fired from boats and helicopters.

ALTERNATIVE 2: Alternative 2 would provide the Alternative 1 level of training operations within the MCAS Cherry Point Range Complex plus an intermittent increase in the water danger zone at BT-9 in order to fire Hellfire and tube-launched, optically tracked, wire guided missiles to the target.

CURRENT ALTERNATIVES:

Please note: The proposed BT-9 intermittent expansion summarized above was removed from the EA for analysis due to a change in planning criteria used to develop the weapons safety zones. **The alternatives were reorganized in the final version of the EA to reflect the following:**

NO ACTION ALTERNATIVE: The current level of training operations within the MCAS Cherry Point Range Complex with no change or increase in training activities across Cherry Point managed land, water, or airspace.

ALTERNATIVE 1: The current level of training operations within the MCAS Cherry Point Range Complex under the No Action Alternative with additional training increases that include:

- An increase of sortie-operations and munitions usage associated with rotary-wing aircraft (CH-53, AH-1 and UH-1) squadrons,
- An increase in small arms range activities on the main air station.

ALTERNATIVE 2: Action taken forward by MCAS Cherry Point for implementation. Analyzed the Alternative 1 level of training, in addition to an **intermittent** expansion of the prohibited area associated with BT-11 to support the use of .50 caliber rounds by small boats and helicopters.

ACTION TAKEN: Marine Corps Air Station Cherry Point prepared the EA to analyze the impacts of supporting and conducting current and increasing levels of military training operations on MCAS Cherry Point Ranges. The EA was prepared in compliance with NEPA. A Finding of No Significant Impact (FONSI) for the EA was signed by the MCAS Commanding Officer on February 11, 2009 supporting implementation of the actions described and analyzed in **Alternative 2** of the EA. A notice of availability of this decision was published by local news media.

WHY DID CHERRY POINT TAKE ACTION: The NEPA process requires analysis of the environmental impact of proposed increases in training activities and the change in use of current weapon systems, within MCAS Cherry Point Ranges.

RESULTS OF ACTION: By signing the FONSI, MCAS Cherry Point is authorized to carry out all actions described and analyzed in the EA with the exception of implementing the intermittent expansion of the prohibited area around BT-11 and any activity associated with this expansion (i.e. firing .50 cal. munitions from small boats.)

Rotary wing aircraft are currently authorized to fire .50 cal. munitions within the existing prohibited area; however the intermittent expansion would better simulate real-world scenarios our Marines encounter.

On April 16, 2009, MCAS Cherry Point requested the Army Corps of Engineers approve an intermittent expansion of the water prohibited area around BT-11 to optimize public safety and military training, and to protect any vessels that operate in the vicinity of BT-11. Approval would result in a change to the Code of Federal Regulation (CFR) (334.420 Pamlico Sound and adjacent waters, N.C.; danger zones for Marine Corps operations.)

The requested new intermittent expansion of the prohibited area would be implemented between 4 p.m. to 11 p.m., for a maximum of five weekdays (no weekends) per month, from February through November. The additional 3,360-acre water area would be temporarily removed from public use a maximum of 50 seven-hour periods per year. This equates to 350 hours per year, or approximately 4% of the year.

ADDITIONAL RELEVANT DISCUSSION:

PUBLIC OUTREACH: A federal and state agency outreach meeting was held in April, 2008, to introduce the MCAS Cherry Point Operations EA and clearly explain the importance of the Cherry Point Range Complex to mission readiness and the need for the proposed increases in training. An overview of training currently taking place at the range complex was presented, and those actions which result in a change to use of land, water or airspace by the military were specifically highlighted. Among the agencies present were the North Carolina Office of State Archaeology, North Carolina Department of Cultural Resources, National Marine Fisheries Service (NMFS), United States Fish and Wildlife Service (USFWS), North Carolina Division of Coastal Management, North Carolina Wildlife Resources Commission, and others.

In addition to the agency outreach meeting, public information sessions were held in June and again in October 2008, for a total of four public information meetings. NEPA does not require public information meetings for an EA. However, MCAS Cherry Point deliberately chose to go above and beyond to ensure public awareness and involvement. The June public meetings presented the alternatives outlined in the "original alternatives" section of this document, and took place in Craven and Carteret

Counties on successive evenings. The October series of meetings took place in Pamlico County and once again in Carteret County (different location). The October meetings were determined necessary because the proposed BT-9 intermittent expansion (presented in the June meeting) was removed from the EA due to a change in planning criteria used to develop weapons safety zones.

At the public information meetings, individuals were provided information presented at the federal and state agency outreach meeting in April. The meeting locations were determined based on knowledge of municipal interests and potentially impacted user groups. User group demography was determined through a one-year assessment of the commercial and recreational uses of the waters surrounding the MCAS Cherry Point bombing targets. Results of the assessment clearly defined that the majority of users encountered on the waters surrounding the target areas resided in the immediate coastal communities adjacent to the Neuse River and Pamlico Sound.

Comments Received. A total of 112 written comments were received from the public during the period immediately following the outreach meetings; 57 after June, 55 after October. The majority were form letters encouraging the Marine Corps to conduct a full environmental impact statement (EIS). Comments received by state and federal agencies included: concerns of potential environmental impacts, a request to include Submerged Aquatic Vegetation (SAV) and oyster cultch planting sites in the document for impact analysis, and requests to increase efforts to notify mariners of range activities. These comments were considered for incorporation into the EA, and resulted in the following actions:

- Known SAV and oyster cultch planting sites were added to the EA for analysis. The EA determined no SAV will be impacted by the proposed alternative. There are no oyster cultch planting sites existing within the current prohibited areas of the MCAS Cherry Point Range Complex. Three sites will fall within the requested new intermittent expansion of the prohibited area around BT-11, limiting access to the sites between 4 p.m. to 11 p.m., for a maximum of five weekdays (no weekends) per month, from February through November. There will be no physical impacts to the oyster cultch planting sites.

- The requested new intermittent expansion of the prohibited area was decreased from seven days per month to a maximum of five weekdays per month. If no requests for small boats .50 cal. live-fire training are received in a given month, the intermittent closure of the prohibited area would not occur.

Is there any potential danger to the public from increases in training?

No. Public access to impact areas within the MCAS Cherry Point Range Complex is prohibited. Marine Corps standard operating procedures include every possible safety precaution during training activities conducted on land, water and in the air to prevent injury to people or damage to property. Nautical charts clearly show water restricted and prohibited areas within the MCAS Cherry Point Range complex. Per US Code of

Federal Regulations, Part 334, the prohibited areas are closed to navigation and all persons at all times except for such vessels as may be directed by the enforcing agency to enter on assigned duties. Aeronautical charts show special-use airspace above the MCAS Cherry Point Range Complex that is controlled by the Marine Corps.

The current water restricted areas will remain open to navigation at night. No vessel or person shall enter these areas during the hours of daylight without special permission from the enforcing agency.

The public will be notified at least two weeks in advance through the Notice to Mariners system regarding implementation of the requested new intermittent expansion of the prohibited area. MCAS Cherry Point will also establish a public call-in line.

Will the proposed action damage the environment?

There will be no significant adverse impacts to the environment. The Marine Corps' proactive implementation of an Integrated Natural Resources Management Plan will minimize any negative effects on environmental, natural and cultural resources. Additionally, numerous federal laws and regulations govern the protection and preservation of environmental resources. The Marine Corps strictly adheres to federal laws and regulations governing the protection and preservation of environmental resources. The Endangered Species Act of 1973 protects threatened and endangered species and prohibits federal agencies from performing any action that could jeopardize the survival of the species.

THREATENED AND ENDANGERED SPECIES – The EA concluded that the chosen alternative will not adversely impact any endangered species after analyzing the abundance, distribution, habitat requirements and seasonal movements of protected species within the affected environment. As required by federal law, MCAS Cherry Point has consulted with the US Fish and Wildlife service and is currently consulting with the National Marine Fisheries service regarding protected, threatened and endangered species that may be observed within the MCAS Cherry Point Range Complex.

WATER RESOURCES – The EA indicates the chosen alternative will not adversely impact surface and ground water resources within the range complex. MCAS Cherry Point is bound by several regulations such as the Clean Water Act, Coastal Zone Management Act, Magnuson-Stevens Fishery Conservation and Management Reauthorization Act, and the River and Harbors Act which direct federal agencies to take action to minimize the destruction, loss or degradation of water resources and the species the aquatic environment may support.

CULTURAL RESOURCES – The EA concluded there will be no adverse impacts to cultural resources by implementing the proposed alternative. A variety of historic and prehistoric archaeological sites, as well as historic structures are protected through the Integrated Cultural Resources Management Plan for MCAS Cherry Point. The Marine Corps, in consultation with the State Historic Preservation Office under Section 106 of

the National Historic Preservation Act, takes all viable measures to avoid, minimize or mitigate any adverse effects to cultural resources that are listed on, or eligible for listing on, the National Register of Historic Places.

Proposed Water Restricted Area

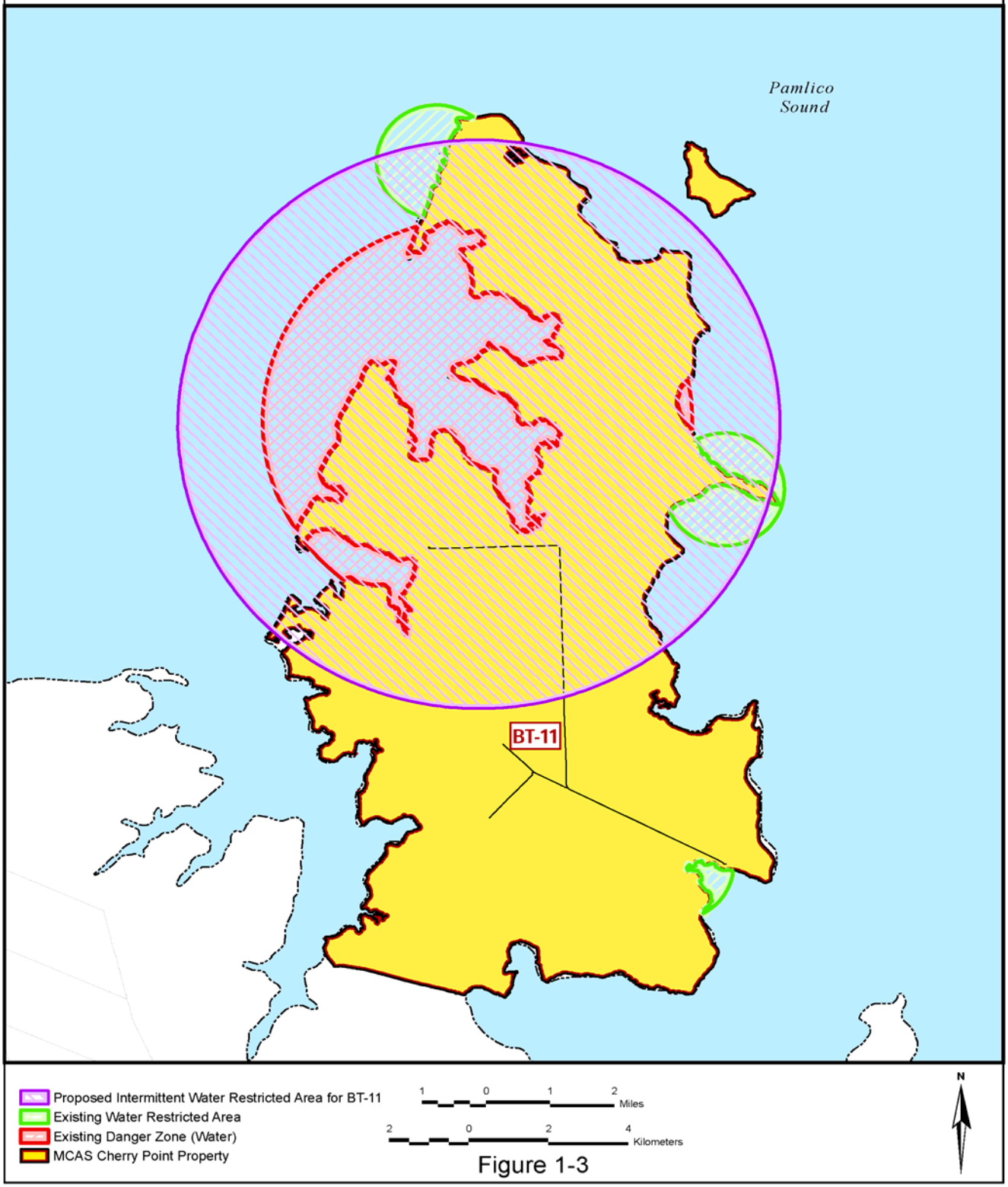


Figure 1-3

Code of Federal Regulations (CFR) at 33 CFR 334.42.

§ 334.420 Pamlico Sound and adjacent waters, N.C.; danger zones for Marine Corps operations.

(a) *Bombing and rocket firing area in Pamlico Sound in vicinity of Brant Island* — (1) *The area.* The waters within a circular area with a radius of 3.0 statute miles having its center on the southern side of Brant Island at latitude 35°12'30", longitude 76°26'30".

(2) *The regulations.* The area shall be closed to navigation and personnel at all times except for vessels engaged in operational and maintenance work as directed by the enforcing agency. Prior to bombing or firing operations the area will be “buzzed” by plane. Upon being so warned vessels working in the area shall leave the area immediately.

(b) *Bombing, rocket firing, and strafing areas in Pamlico Sound and Neuse River* —(1) *The areas.* (i) The waters within a circular area with a radius of 1.8 statute miles having its center at latitude 35°02'12", longitude 76°28'00".

(ii) The waters within a circular area with a radius of 0.5 statute mile having its center at latitude 35°04'12", longitude 76°28'24".

(iii) The waters within a circular area with a radius of 0.5 statute mile having its center at latitude 35°01'42", longitude 76°25'48".

(iv) The waters within a circular area with a radius of 0.5 statute mile having its center at latitude 34°58'48", longitude 76°26'12".

(2) *The regulations.* (i) The area described in paragraph (b)(1) of this section will be used as bombing, rocket firing, and strafing areas. Live and dummy ammunition will be used. The area shall be closed to navigation and all persons at all times except for such vessels as may be directed by the enforcing agency to enter on assigned duties. The area will be patrolled and vessels “buzzed” by the patrol plane prior to the conduct of operations in the area. Vessels or personnel which have inadvertently entered the danger zone shall leave the area immediately upon being so warned.

(ii) The areas described in paragraphs (b)(1) (ii), (iii) and (iv) of this section shall be used for bombing, rocket firing, and strafing areas. Practice and dummy ammunition will be used. All operations will be conducted during daylight hours, and the areas will be open to navigation at night. No vessel or person shall enter these areas during the hours of daylight without special permission from the enforcing agency. The areas will be patrolled and vessels “buzzed” by the patrol plane prior to the conduct of operations in the areas. Vessels or personnel which

have inadvertently entered the danger zones shall leave the area immediately upon being warned.

(c) *Enforcing agency.* The regulations of this section shall be enforced by the Commander, Marine Corps Air Bases, East, Cherry Point, North Carolina, or his authorized representatives.

[26 FR 9673, Oct. 13, 1961. Redesignated at 50 FR 42696, Oct. 22, 1985, as amended at 61 FR 43970, Aug. 27, 1996]

Enforcement of BT-11 Danger Zones

FACTS: BT-11 is a training facility in the Down East area of Carteret County. BT-11 is a multi-purpose target complex designed to provide training in the delivery of conventional and special weapons. BT-11 encompasses all of Piney Island and is located in R-5306A in Pamlico Sound at coordinates 34°59'N and 76°27'W approximately 22 NMI from the MCAS Cherry Point TACAN, Channel 75, bearing 074. R-5306A extends from the surface up to 17,999-feet MSL.

Danger Zones for BT-11 were established and published in the Code of Federal Regulations (CFR) at 33 CFR 334.42. The Barge target located at latitude 35°02'12", longitude 76°28'00" has a 1.8 mile radius prohibited area. This prohibited area extends out over the water.

At the beginning of each shift prior to opening the targets, the Test Range Trackers conduct a visual range sweep of both BT-11 using the Safety and Surveillance camera system. Every weekday morning prior to the targets being opened, the MCAS Cherry Point Search and Rescue helicopter, Pedro, conducts a range clearance flight over the target area. The primary purpose of these daily range sweeps are to ensure the targets are clear of interlopers (i.e., boats, hunters, personnel, and non-participating aircraft) and/or protected species (dolphins, manatees, and sea turtles). The Test Range Trackers and Pedro search the coastline of BT-11 to include all bays, the three .5 statute mile radius restricted areas, and the 1.8 statute mile radius prohibited area mentioned above.

334 CFR 420b(2)ii states “The areas will be patrolled and vessels “buzzed” by the patrol plane prior to the conduct of operations in the areas. Vessels or personnel which have inadvertently entered the danger zones shall leave the area immediately upon being warned.”

The Marine Corps actively uses the BT-11 range complex. Range sweeps are routinely conducted using Pedro aircraft. Range operations are halted if a surface boat enters what is perceived to be the prohibited area.

Place sufficient signage in the waters at the 1.8 mile radius from the barge target to sufficiently identify the prohibited area. Ensure wide publication of the prohibited area to fishermen and recreational boaters. Enforce the limits of the prohibitive area as strictly as possible using Pedro aircraft and surface patrols.

Danger Zones and Restricted Areas Surrounding Bombing Target 9 (Brant Island) and Bombing Target 11 (Piney Island)

The following water danger zones and restricted areas are identified on Nautical Navigational Charts and are published in the Code of Federal Regulations (33 CFR 334.420).

Definitions

Danger zone - A defined water area (or areas) used for target practice, bombing, rocket firing or other especially hazardous operations, normally for the armed forces. The danger zones may be closed to the public on a full-time or intermittent basis, as stated in the regulations.

Prohibited Area – A defined water area that is closed to navigation and personnel at all times except for vessels engaged in operational and maintenance work as directed by the enforcing agency.

Restricted area - A defined water area for the purpose of prohibiting or limiting public access to the area. Restricted areas generally provide security for Government property and/or protection to the public from the risks of damage or injury arising from the Government's use of that area.

Bombing Target 9 (Brant Island)

The water danger zone (prohibited area) around BT-9 includes the waters within a circular area with a radius of 3.0 statute miles having its center on the southern side of Brant Island at latitude N 35 12' 30", longitude W 76 26' 30". This area shall be closed to navigation and personnel at all times except for vessels engaged in operational and maintenance work as directed by the Commanding Officer, MCAS Cherry Point. Prior to bombing or firing operations, the area will be buzzed by aircraft to ensure that the area is clear of interlopers (i.e., boats, hunters, personnel, and non-participating aircraft) and/or protected species (dolphins, manatees, and sea turtles). Upon being so warned vessels working in the area shall leave the area immediately.

Bombing Target 11 (Piney Island)

The water danger zone (prohibited area) around BT-11 includes the waters within a circular area with a radius of 1.8 statute miles having its center at latitude N 35 02' 12", longitude W 76 28' 00". This area covers all of Rattan Bay and the waters outside the mouth of Rattan Bay, the water immediately off the shoreline running from Westward Point south to just north of Cedar Bay Point, and the eastern two thirds of Cedar Bay. This area shall be closed to navigation and personnel at all times except for vessels engaged in operational and maintenance work as directed by the Commanding Officer, MCAS Cherry Point. Prior to bombing or firing operations, the area will be buzzed by aircraft to ensure that the area is clear of interlopers (i.e., boats, hunters, personnel, and non-participating aircraft) and/or protected species (dolphins, manatees, and sea turtles). Vessels or personnel which have inadvertently entered the danger zones shall leave the area immediately upon being warned.

The water restricted areas around BT-11 include:

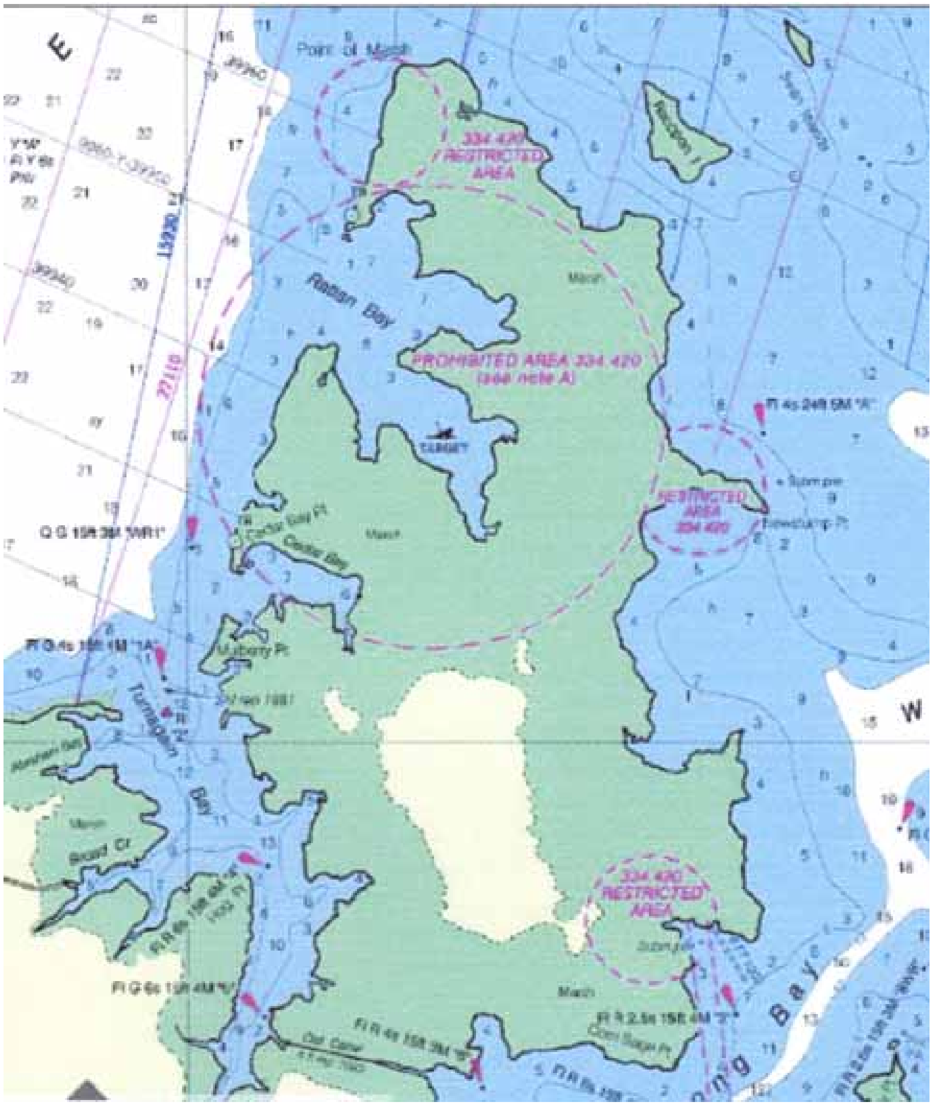
- The waters within a circular area with a radius of 0.5 statute mile having its center at latitude N 35 04' 12", longitude W 76 28' 24". This area covers the entire shoreline and the water adjacent to the shoreline from the northern mouth of Rattan Bay to Point of Marsh.

- The waters within a circular area with a radius of 0.5 statute mile having its center at latitude N 35 01' 42", longitude W 76 25' 48". This area covers Newstump Point and the waters immediately North and South of Newstump Point.

- The waters within a circular area with a radius of 0.5 statute mile having its center at latitude N 34 58' 48", longitude W 76 26' 12". This area covers Jacks Bay.

These areas shall be closed to navigation and personnel during daylight hours, and the areas will be open to navigation at night. No vessel or person shall enter these areas during the hours of daylight without special permission from the Commanding Officer, MCAS Cherry Point. Prior to bombing or firing operations, the area will be buzzed by aircraft to ensure that the area is clear of interlopers (i.e., boats, hunters, personnel, and non-participating aircraft) and/or protected species (dolphins, manatees, and sea turtles). Vessels or personnel which have inadvertently entered the danger zones shall leave the area immediately upon being warned.

All other waters surrounding BT-11 are open to navigation. This includes the waters between BT-11 and Racoon Island, the waters between Racoon Island and Big Swan Island, and Old Canal (Indian Ditch) between Turnagain Bay and Stump Bay.


Point of Marsh
334.420 RESTRICTED AREA
Raccoon I
Rattan Bay
PROHIBITED AREA 334.420 (see note A)
TARGET
RESTRICTED AREA 334.420
Cedar Bay
Mulberry Pt
Marsh
Turnagain Bay
Broad Cr
334.420 RESTRICTED AREA
Bay

Determining Surface Danger Zones

Department of the Army Pamphlet (DA Pam) 385-63/Marine Corps Order (MCO) 3570.1B, Range Safety, provides standards and procedures for the safe firing of ammunition, demolitions, lasers, guided missiles, and rockets for training, target practice, and, to the extent practicable, combat. These standards include procedures for Surface Danger Zones or SDZs. SDZs will be prepared and updated as appropriate according to DA Pam 385–63 for all munitions and laser systems. SDZs published in DA Pam 385–63 represent Army and USMC minimum safety requirements. The following information is from MCO 3570.1B

Surface Danger Zone - The ground and airspace designated within the training complex (to include associated safety areas) for vertical and lateral containment of projectiles, fragments, debris, and components resulting from the firing, launching, or detonation of weapon systems to include ammunition, explosives, and demolition explosives.

Prior to a unit firing any weapon or delivering ordnance on one of the MCAS Cherry Point live fire ranges, the Range Management Department is required to develop a SDZ for each firing point and target for the specific weapon and type of ordnance to ensure that it can be safely used on the range without endanger nonparticipating personnel, or the general public..

The Figure below depicts a typical SDZ for small arms, machine guns, shotguns, and other direct fire weapons without explosive projectiles, firing from a single firing position along the gun target line to a single target that MCAS Cherry Point is required to use in accordance with MCO 3570.1B.

Definitions

Distance *X* - The maximum distance a projectile (to include guided missiles and rockets) will travel when fired or launched at a given quadrant elevation with a given charge or propulsion system.
Distance *Y* - The maximum distance downrange at which a lateral ricochet is expected to occur when a projectile is fired at a given quadrant elevation.
Ricochet Area - The area located to the left and right of the dispersion area that contains projectiles after making initial contact with the target medium. For surface danger zones having angles *P* and *Q*, it is also the area located to the left and right of the dispersion area. The ricochet area is defined by Distance *W.*
Dispersion Area - The area within the surface danger zone located between the GTL and the ricochet area. This area accounts for human error, gun or cannon tube wear, propellant temperature, etc.
Angle *P* - The area beginning at the firing point, located to the left and right of the dispersion area, which contains projectiles after making initial contact with the target medium.
Angle *Q* - The area beginning at distance *Y,* located to the left and right of the dispersion area, which contains projectiles after making initial contact with the target medium.
Distance *W* - The maximum lateral distance a projectile will ricochet after impacting within the dispersion area. Distance *W* defines the maximum lateral edge of the ricochet area.

Determining Surface Danger Zones

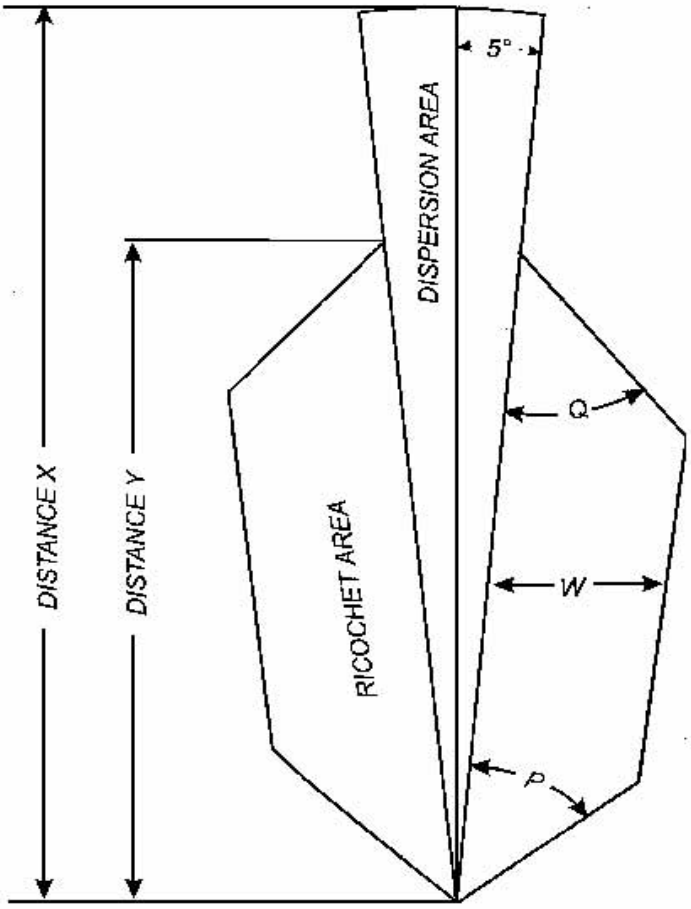
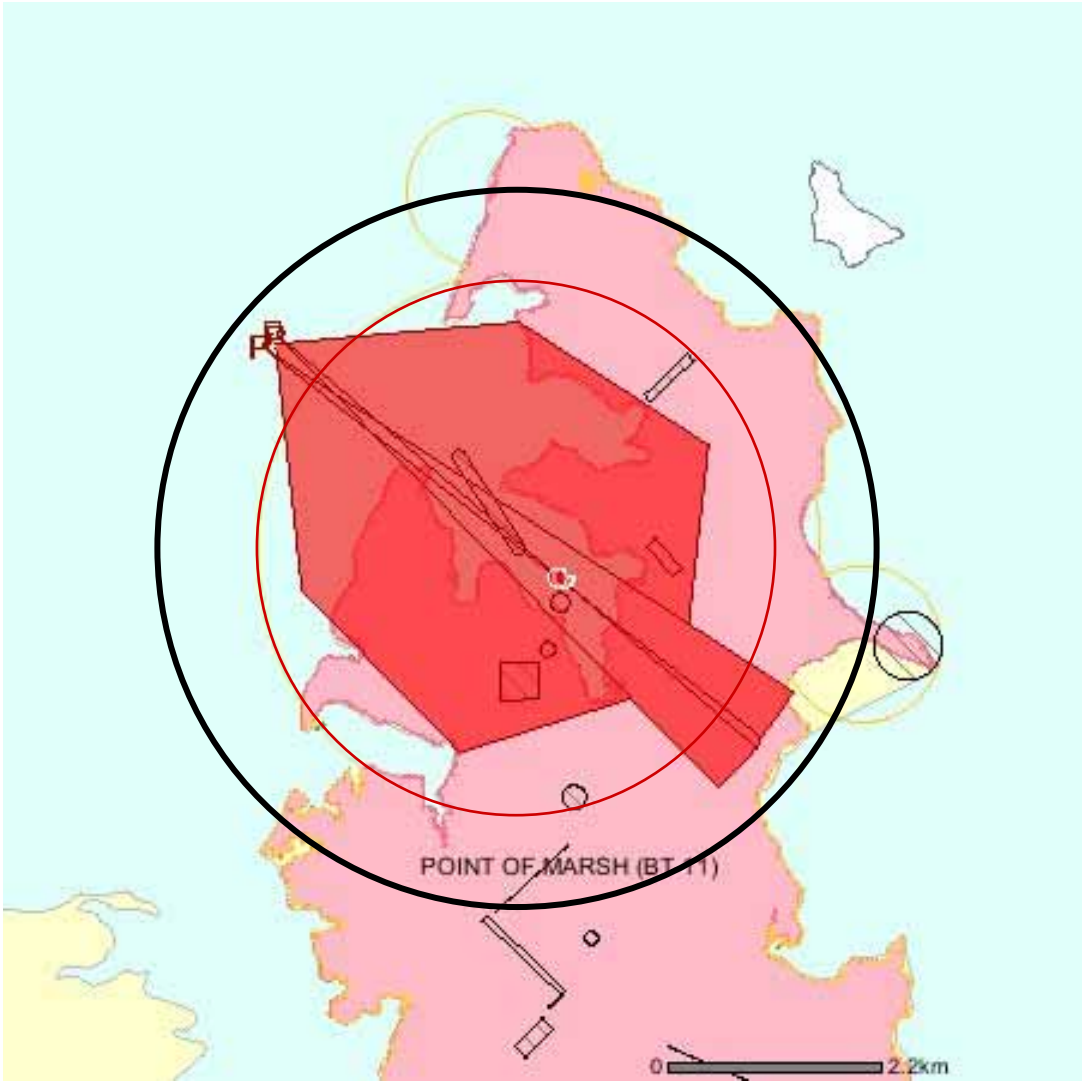


Figure B–1. SDZ for direct-fire weapons without explosive projectiles

Example .50 Caliber Surface Danger Zone
(Not to Scale)



Existing 1.8 sm Water Danger Zone

Proposed Intermittent 2.5 sm Water Restricted Area

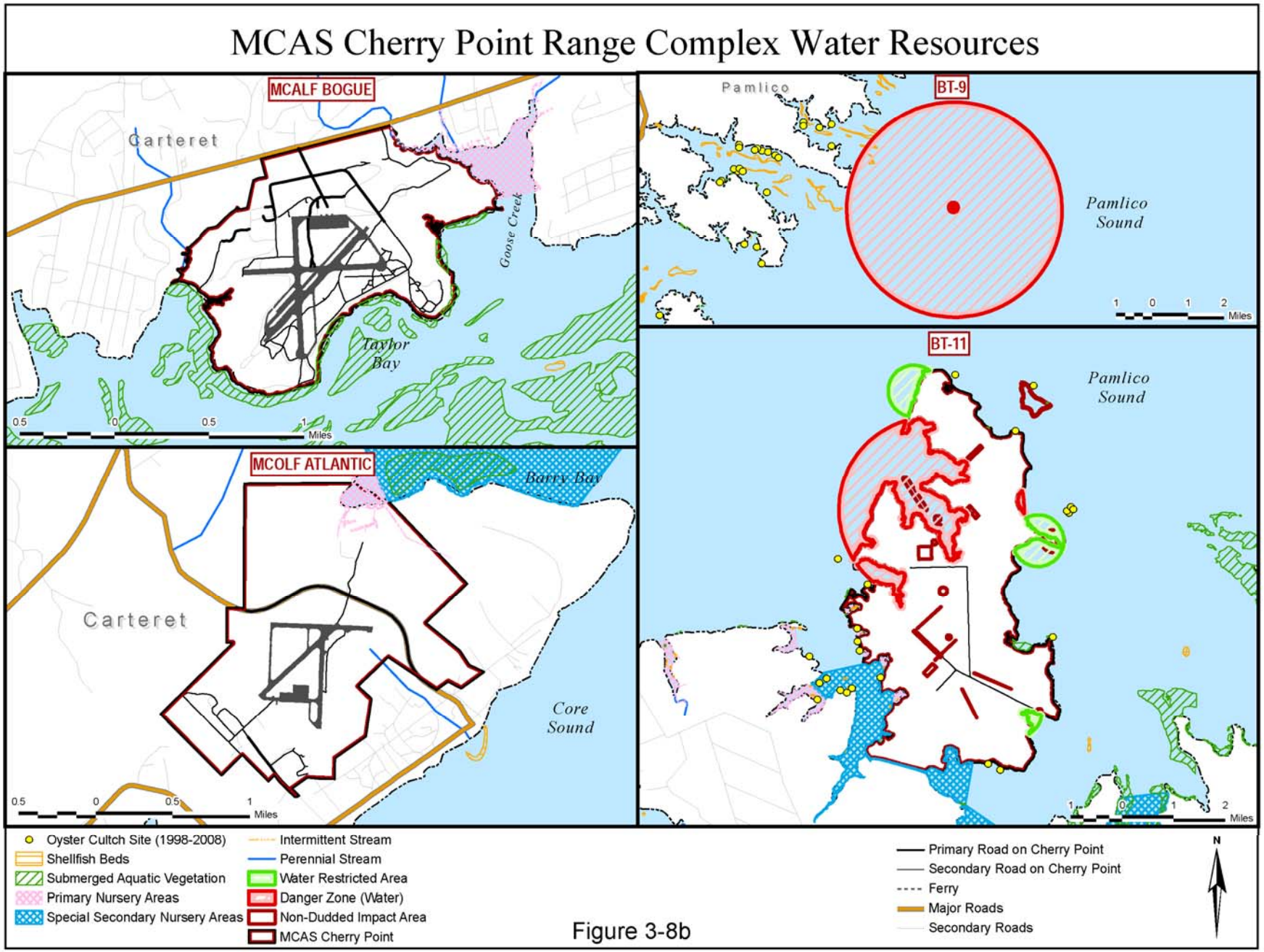

MCAS Cherry Point Range Complex Water Resources
MCALF BOGUE
Carteret
Goose Creek
Taylor Bay
0.5 0 0.5 1 Miles
MCOLF ATLANTIC
Barry Bay
Carteret
Core Sound
0.5 0 0.5 1 Miles
Pamlico
BT-9
Pamlico Sound
1 0 1 2 Miles
BT-11
Pamlico Sound
1 0 1 2 Miles
Oyster Cultch Site (1998-2008)
Shellfish Beds
Submerged Aquatic Vegetation
Primary Nursery Areas
Special Secondary Nursery Areas
Intermittent Stream
Perennial Stream
Water Restricted Area
Danger Zone (Water)
Non-Dudded Impact Area
MCAS Cherry Point
Primary Road on Cherry Point
Secondary Road on Cherry Point
Ferry
Major Roads
Secondary Roads
N

Figure 3-8b


N
Meters
0
2,500
5,000
25
NC OYSTER PLANTING AREA

MARINE CORPS AIR STATION, CHERRY POINT
PASSIVE ACOUSTIC MONITORING OF MARINE MAMMALS

MCAS Cherry Point, in cooperation with Duke University engaged in an effort to develop an automated signal detector (a software program) to recognize the whistles of dolphins in the BT-9 and BT-11 ranges. In Phase I of this effort, an automated signal detector was developed and laboratory tested to provide no greater than a 5% rate of false detection. Once a dolphin whistle has been correctly detected, the unit has been programmed to send a text message to a commercially available cell-phone via existing cell-phone communications towers. The next Phase of this project involves deployment of the prototype unit at one of the operational towers at the BT-9, Brant Island Shoal bombing target. The prototype unit has been deployed and remains operational in a field setting. Actual data collection has begun. Maintenance checks and testing are ongoing.

Marine mammal protection is critical to mission success. In this photo, a hydrophone is being deployed to listen for dolphin whistles. A version of this signal (whistle) detector can send a text message once a whistle is detected.

The underlying purpose for development of this technology is to provide additional monitoring capabilities for marine mammals found within waters adjacent to active bombing ranges. Cherry Point has initiated consultation with the National Marine Fisheries Service related to all military training activities taking place within and around water-based training ranges of BT-9 and BT-11. The additional monitoring that will be provided by the signal detector documents positive actions taken by Cherry Point to reduce the potential for harassment or take of marine mammals.

Coordination with the National Marine Fisheries Service is ongoing regarding marine mammals and sea turtles, and with the United States Fish and Wildlife Service for West Indian manatee. Additional coordination with the North Carolina Wildlife Resources Commission and NC Division of Marine Fisheries is in progress related to various marine and natural resources issues.

MCAS has funded numerous research projects which have provided solid scientific data for environmental documents. Marine mammals and sea turtles have been a focus of these efforts. A dolphin surfaces during an identification survey.

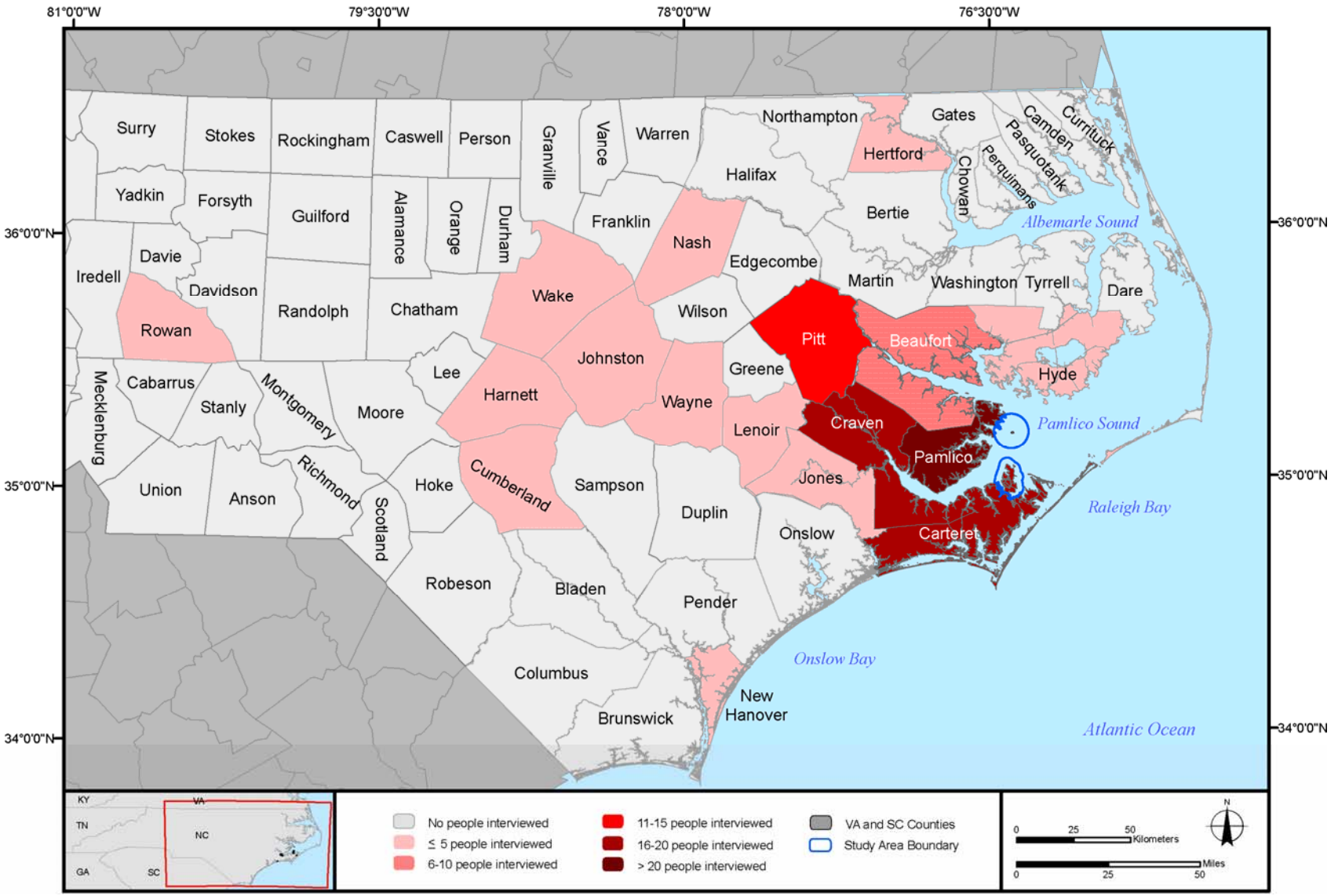


Figure 4-1. The number of people from each county in eastern North Carolina interviewed during the water use survey at either Piney Island or Brant Island Shoal.

Table 4-2. The number of trips that the individuals interviewed during the water use survey reported they made to the two study areas on an annual basis.

Number of Annual Trips	Piney Island (BT-11)	Brant Island Shoal (BT-9)	Total
1-10 times	16	7	23
11-25 times	16	7	23
26-50 times	16	6	22
51-100 times	10	---	10
101-200 times	4	---	4
201-300 times	2	1	3
> 300 times	3	3	6

Table 4-3. The number of years the individuals interviewed during the water use survey reported they had been coming to the two study areas.

Years of Use	Piney Island (BT-11)	Brant Island Shoal (BT-9)	Total
1-10 years	21	5	26
11-20 years	24	5	29
21-30 years	13	11	24
31-40 years	12	3	15
41-50 years	4	1	5
> 50 years	2	1	3

Table 4-4. The number of individuals interviewed during the water use survey listed by county of residence.

County	Piney Island (BT-11)	Brant Island Shoal (BT-9)	Total
Pamlico	19	8	27
Carteret	15	2	17
Craven	12	4	16
Pitt	7	8	15
Beaufort	6	3	9
Hyde	5	---	5
New Hanover	5	---	5
Wake	3	---	3
Wayne	2	---	2
Lenoir	2	---	2
Cumberland	1	---	1
Harnett	1	---	1
Jones	1	---	1
Nash	1	---	1
Rowan	1	---	1
Hertford	---	1	1
Johnston	---	1	1

Commercial and Recreational Activities Observed in Vicinity of BT-11 in Calendar Year 2007

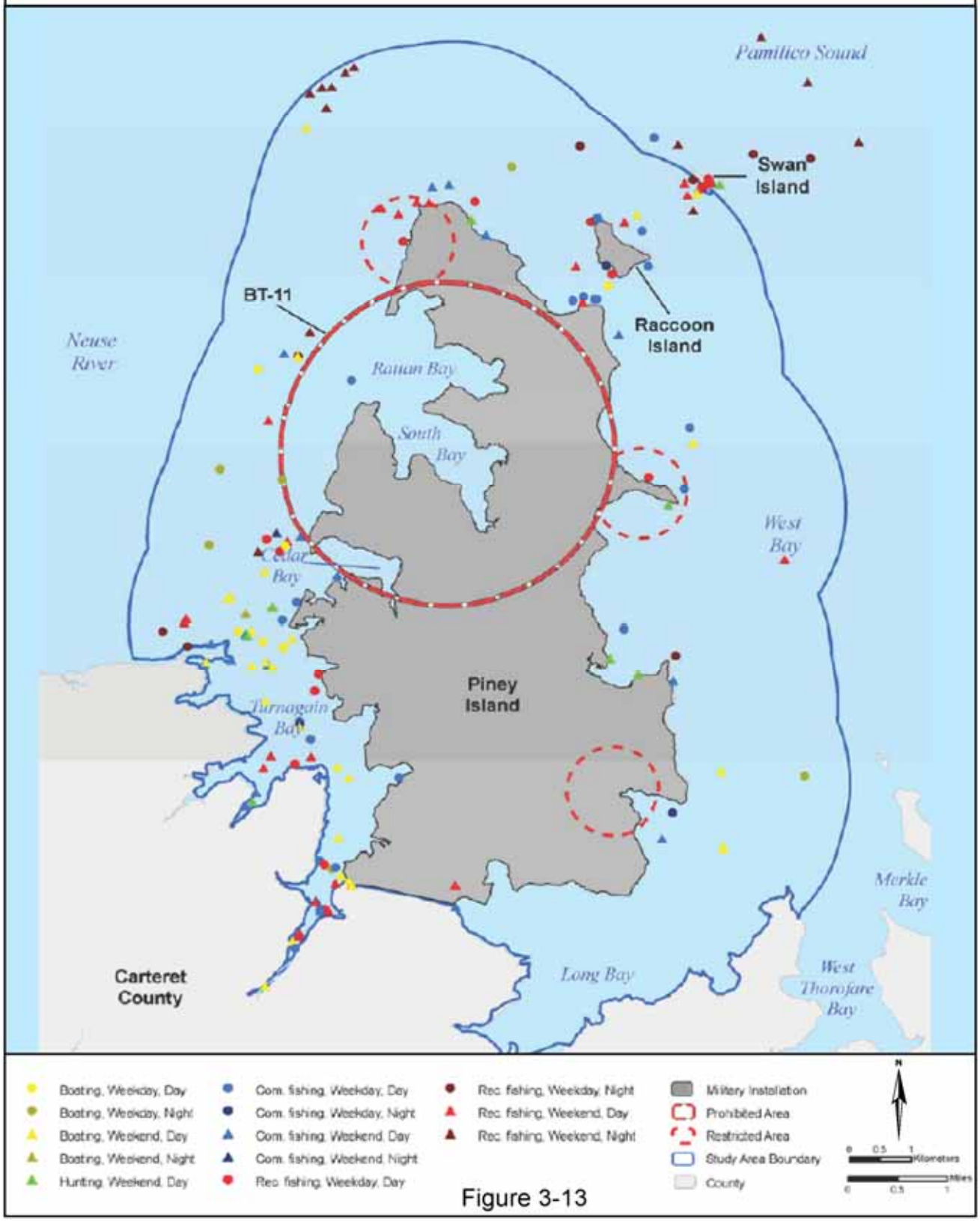


Figure 3-13

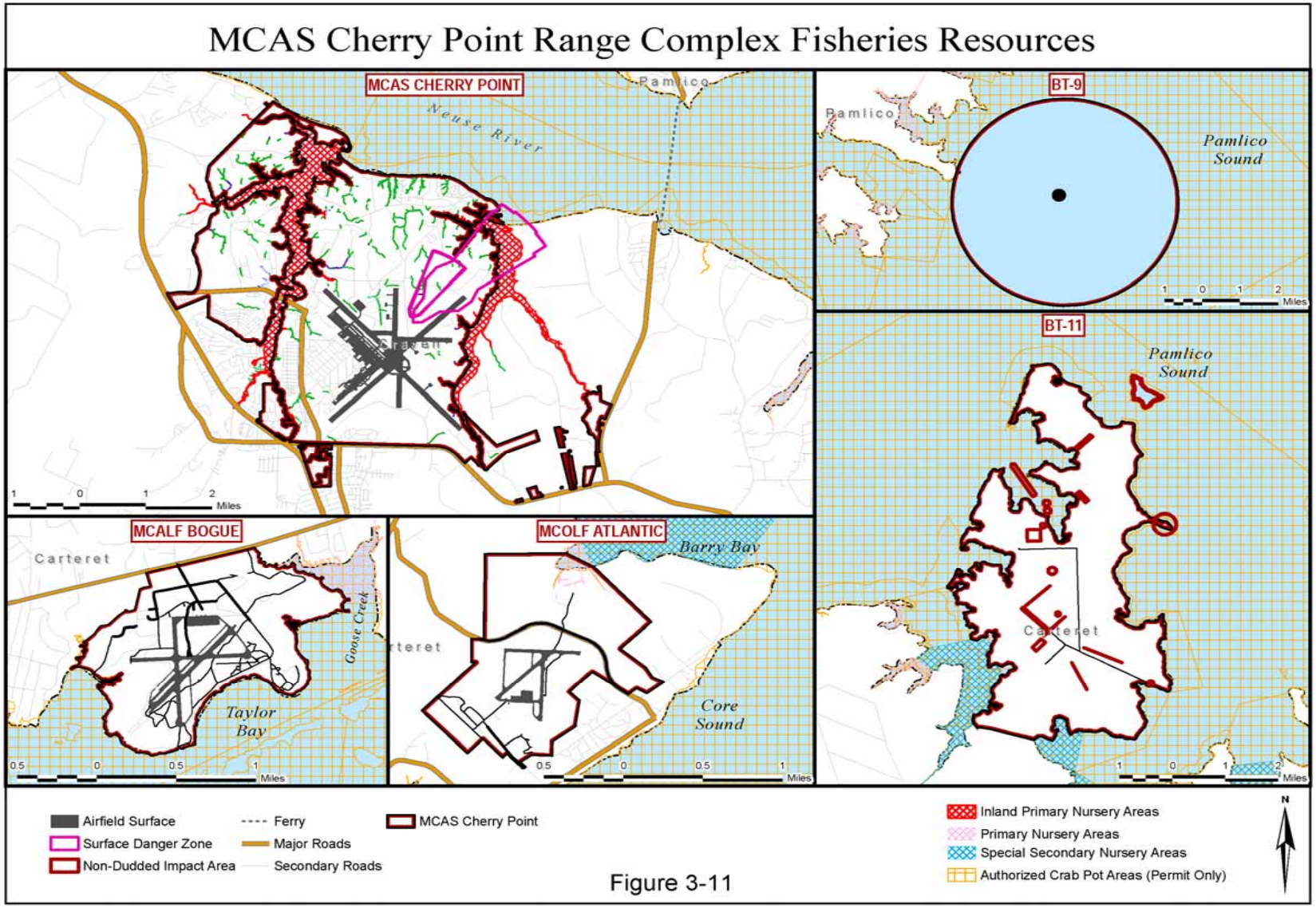

MCAS Cherry Point Range Complex Fisheries Resources
MCAS CHERRY POINT
Pamlico
Neuse River
Craven
1 0 1 2 Miles
BT-9
Pamlico
Pamlico Sound
1 0 1 2 Miles
BT-11
Pamlico Sound
Carteret
1 0 1 2 Miles
MCALF BOGUE
Carteret
Goose Creek
Taylor Bay
0.5 0 0.5 1 Miles
MCOLF ATLANTIC
Barry Bay
Core Sound
0.5 0 0.5 1 Miles
Airfield Surface
Surface Danger Zone
Non-Dudded Impact Area
Ferry
Major Roads
Secondary Roads
MCAS Cherry Point
Inland Primary Nursery Areas
Primary Nursery Areas
Special Secondary Nursery Areas
Authorized Crab Pot Areas (Permit Only)
N

Figure 3-11

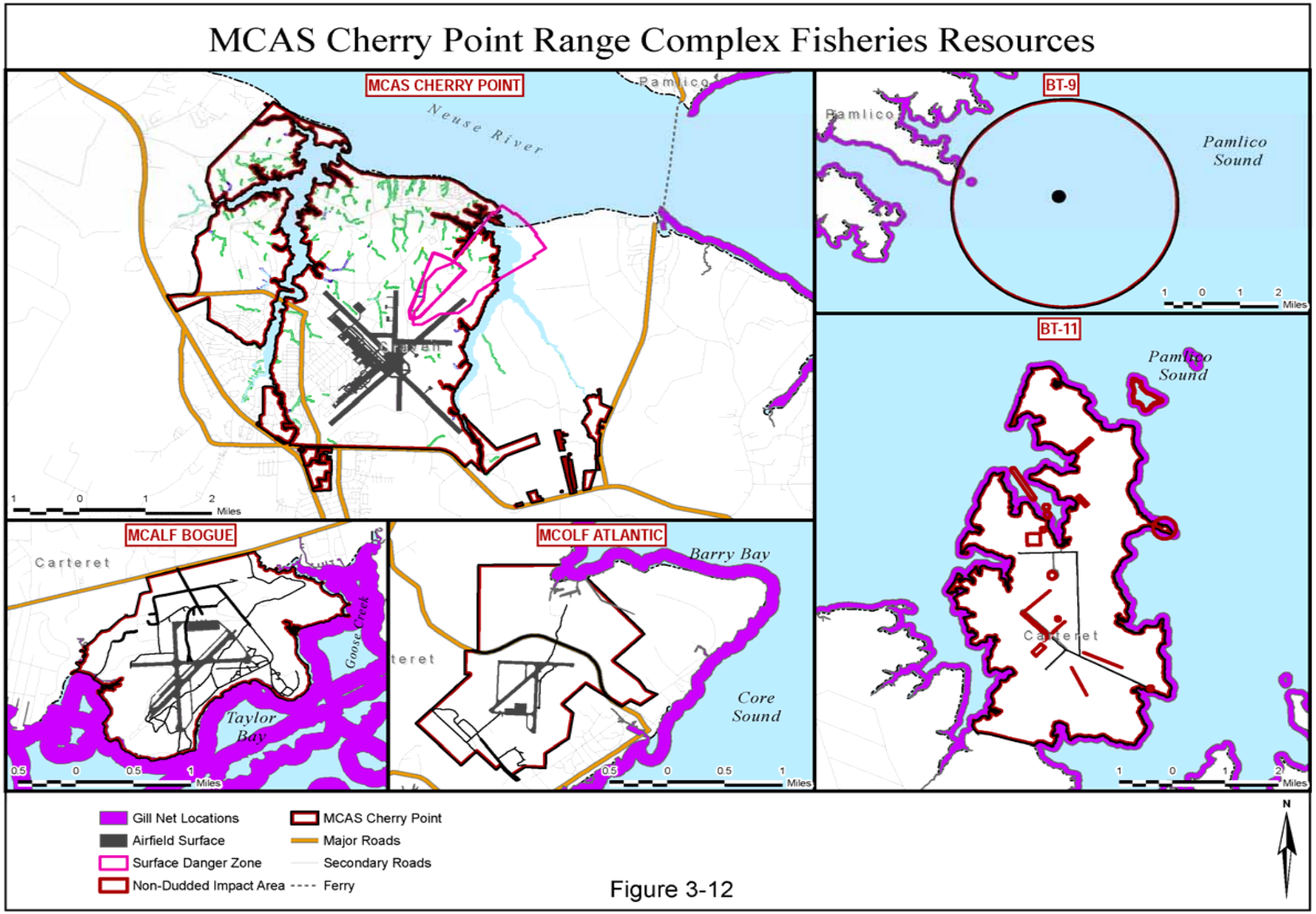

MCAS Cherry Point Range Complex Fisheries Resources
MCAS CHERRY POINT
Neuse River
Pamlico
BT-9
Pamlico Sound
BT-11
Pamlico Sound
MCALF BOGUE
Carteret
Goose Creek
Taylor Bay
MCOLF ATLANTIC
Barry Bay
Core Sound
Carteret
Miles
Gill Net Locations
Airfield Surface
Surface Danger Zone
Non-Dudded Impact Area
MCAS Cherry Point
Major Roads
Secondary Roads
Ferry
N

Figure 3-12

	Number of respondents	Total annual responses	Hours per response	Total hours
Semi-Annual Reports	25	50	6	300
Final Reports	25	25	8	200
Recordkeeping	25	25	5	125
Total			59	6025

Status of the proposed information collection: Pending OMB approval.

Authority: Section 3506 of the Paperwork Reduction Act of 1995, 44 U.S.C. Chapter 35, as amended.

Dated: February 8, 2006.

Darlene F. Williams,

Assistant Secretary for Policy Development and Research.

[FR Doc. 06–1358 Filed 2–13–06; 8:45 am]

BILLING CODE 4210–27–M

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

Notice of Availability of the Final Comprehensive Conservation Plan for Lost Trail National Wildlife Refuge, Marion, MT

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of availability.

SUMMARY: The U.S. Fish and Wildlife Service announces that a Final Comprehensive Conservation Plan (CCP) for Lost Trail National Wildlife Refuge is available. This CCP, prepared pursuant to the National Wildlife Refuge System Improvement Act of 1997 and the National Environmental Policy Act of 1969, describes how the U.S. Fish and Wildlife Service intends to manage this refuge for the next 15 years.

ADDRESSES: A copy of the Final CCP or Summary may be obtained by writing to U.S. Fish and Wildlife Service, Lost Trail National Wildlife Refuge, 6295 Pleasant Valley Road, Marion, Montana 59925; or downloaded from *http://mountain-prairie.fws.gov/planning.*

FOR FURTHER INFORMATION CONTACT: Ray Washtak, Refuge Manager, U.S. Fish and Wildlife Service, Lost Trail National Wildlife Refuge, 6295 Pleasant Valley Road, Marion, Montana 59925; telephone 406–858–2216; fax 406–858–2218; or e-mail: *ray_washtak@fws.gov.*

SUPPLEMENTARY INFORMATION: Lost Trail National Wildlife Refuge (NWR), comprised of nearly 9,300 acres, is long and narrow and is nearly bisected throughout its length by the Pleasant Valley Road in Flathead County, in extreme northwestern Montana. This breathtakingly beautiful refuge was established in 1999 and is nestled in Montana's Pleasant Valley, within the Fisher River watershed. Lost Trail NWR can be described as a long valley crossed by Pleasant Valley Creek and encompassing the 182-acre Dahl Lake. Lost Trail NWR is comprised of wetlands, lush riparian corridors, uplands dominated by prairie and tame grasses, and temperate forests dominated by lodgepole pine and Douglas fir. Besides numerous migratory waterfowl and neotropical bird species, this refuge is home to federally listed species such as the bald eagle, black tern and Spalding's catchfly. Canada lynx and trumpeter swan occasionally use refuge habitats, and the grizzly bear, gray wolf, and bull trout occur in Pleasant Valley. Lost Trail NWR was established by Congress with the following purposes: (1) ''* * * for use by migratory birds, with emphasis on waterfowl and other water birds * * *'' (Migratory Bird Conservation Act); (2) ''* * * for the conservation of fish and wildlife resources * * *'' (Fish and Wildlife Act); (3) '' * * * for fish and wildlife-oriented recreation * * *'' (The Refuge Recreation Act); and (4) for the conservation of endangered and threatened species (Endangered Species Act of 1973, as amended).

This Final CCP identifies goals, objectives, and strategies for the management of Lost Trail NWR that emphasize restoration and maintenance of Dahl Lake and other native habitats, in vigorous condition, to promote biological diversity. The CCP places high importance on the control of invasive plant species with partners and integrated pest management. It seeks to provide habitats in order to contribute to conservation, enhancement and recovery of federally listed species and possible modification of public uses to protect visitors and minimize harmful interaction between users and listed species.

The availability of the Draft CCP and Environmental Assessment (EA) for a 30-day public review and comment period was announced in the **Federal Register** on July 20, 2005 (FO FR 41786). The Draft CCP/EA evaluated four alternatives for managing Lost Trail NWR. Alternative D, the No Action Alternative, proposed continuation of current management of the refuge. Alternative B emphasized manipulation of habitat to promote wildlife populations to provide the public with abundant quality wildlife recreation, as well as research, documentation, and interpretation of cultural resources. It also called for a contact station staffed 7 days a week. Alternative C called for restoration of habitats to historic conditions and allowance of natural processes to manage habitats. It called for increased protection of listed species, and de-emphasizing public use opportunities at the refuge (such as no fishing and hunting, except by special permit).

Based on this assessment and comments received, Alternative A, which is the proposed action, was selected because it best meets the purposes and goals of the refuge, as well as the goals of the National Wildlife Refuge System. The management direction of this refuge is expected to also benefit federally listed species, large ungulates, shore birds, migrating and nesting waterfowl, and neotropical migrants, as well as improve water quality from riparian habitat restoration. It identifies increased environmental education and partnerships that are likely to result in improved wildlife-dependent recreational opportunities. Finally, the CCP places high importance on the protection of cultural and historical resources.

Dated: October 17, 2005.

Sharon R. Rose,

Acting Deputy Regional Director, Region 6, Denver, CO.

[FR Doc. 06–1296 Filed 2–13–06; 8:45 am]

BILLING CODE 4310–55–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

Notice of Availability of the Draft Comprehensive Conservation Plan and Environmental Assessment for the Cedar Island National Wildlife Refuge in Carteret County, NC

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of availability.

SUMMARY: This notice announces that a Draft Comprehensive Conservation Plan and Environmental Assessment for the Cedar Island National Wildlife Refuge are available for review and comment. The National Wildlife System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997, requires the Service to develop a comprehensive conservation plan for each national wildlife refuge. The purpose in developing a comprehensive conservation plan is to provide refuge managers with a 15-year strategy for achieving refuge purposes and contributing toward the mission of the National Wildlife Refuge System, consistent with sound principles of fish and wildlife management, conservation, legal mandates, and Service policies. In addition to outlining broad management direction on conserving wildlife and their habitats, plans identify wildlife-dependent recreational opportunities available to the public, including opportunities for hunting, fishing, wildlife observation, wildlife photography, and environmental education and interpretation.

DATES: Individuals wishing to comment on the Draft Comprehensive Conservation Plan and Environmental Assessment for Cedar Island National Wildlife Refuge should do so no later than March 16, 2006. Public comments were requested, considered, and incorporated throughout the planning process in numerous ways. Public outreach has included scoping meetings, a review of the biological program, an ecosystem planning newsletter, and **Federal Register** notices.

ADDRESSES: Requests for copies of the Draft Comprehensive Conservation Plan and Environmental Assessment should be addressed to Bruce Freske, Refuge Manager, Mattamuskeet National Wildlife Refuge, 38 Mattamuskeet Road, Swan Quarter, North Carolina 27885; Telephone: 252/926–4021; Fax: 252/926–1743. Comments on the draft may be submitted to the above address or via electronic mail to: *bruce_freske@fws.gov.* Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Individual respondents may request that we withhold their home addresses from the record, which we will honor to the extent allowed by law.

SUPPLEMENTARY INFORMATION: The Service analyzed three alternatives for managing the refuge and chose Alternative 2 as the preferred alternative.

Proposed goals for the refuge include:

Wildlife, Fish, and Plant Populations. Conserve, protect, and maintain healthy and viable populations of migratory birds, wildlife, fish, and plants, including Federal and State threatened, endangered, and trust species.

Habitat. Protect and enhance diverse habitats, rare plant assemblages, and nursery areas associated with the Pamlico-Core Sounds and the mid-Atlantic coastal plain.

Public use. Develop programs and facilities to increase public use opportunities, including hunting, fishing, wildlife observation, wildlife photography, and environmental education and interpretation.

Resource Protection. Protect refuge resources by limiting impacts of human development and activity on and around Cedar Island National Wildlife Refuge.

Administration. Provide adequate funding and staffing to accomplish refuge goals and objectives.

Also available for review are compatibility determinations for recreational hunting, fishing, wildlife observation, wildlife photography, and environmental education and interpretation.

Alternatives

Alternative 1 proposes to maintain the status quo. The staff would manage marshes and pine forests with prescribed burns conducted by employees from other refugees according to the Fire Management Plan. The refuge would employ a single maintenance worker stationed on the refuge to maintain the buildings and grounds, clean up dumpsites, and pick up litter. Staff from other refuges would survey waterfowl from the air on a routine basis. The refuge would conduct no other surveys of wildlife or habitats. The refuge would allow all six priority public use activities: waterfowl hunting, fishing, wildlife observation, wildlife photography, and environmental education and interpretation. The staff would not conduct environmental education and interpretation programs, but would allow others to conduct programs on the refuge. The Service would manage the refuge from Mattamuskeet National Wildlife Refuge.

Alternative 2, the preferred alternative, proposes minimum program increases. The refuge would document the presence of priority wildlife species, but would not monitor habitat. Staff would survey waterfowl from the air on a routine basis. The refuge would continue to allow the six priority public use activities, but would have the capacity to increase the number of opportunities. The staff would conduct environmental education programs once a month. An interpretive and observation trail with a brochure and a photo blind would be established. The staff would also control dominant pest plants and animals. There would be four staff members stationed at the Cedar Island National Wildlife Refuge.

Alternative 3 proposes moderate program increases. The refuge would document the presence of priority wildlife species and mammals and monitor fire-dependent habitats. The staff would monitor vegetation in the marshes and pine forests before and after prescribed burns conducted by staff from other refuges according to the Fire Management Plan. Staff from the refuge would survey waterfowl from the air and the ground on a routine basis. The refuge would continue to allow the six priority public use activities, but would have the capacity to increase the number of opportunities. The staff would conduct environmental education and interpretation programs once a month. An interpretive trail with brochure and photo blind would be established. The staff would also monitor pest plants and animals and control them according to an integrated Pest Management Plan. There would be eight staff members stationed at the Cedar Island National Wildlife Refuge.

Actions Common to All Alternatives

All three alternatives share the following concepts and techniques for achieving the goals of the refuge:

- Cooperating with local, State, and Federal agencies, and non-governmental organizations to administer refuge programs;
- Utilizing volunteers to execute the public use, biological, and maintenance programs on the refuge;
- Monitoring populations of waterfowl, shorebirds, and wading birds, and vegetation in the refuge impoundments;
- Maintaining vegetation in the marsh with prescribed fire; and
- Encouraging scientific research on the refuge.

Cedar Island National Wildlife Refuge, in east-central North Carolina, consists of 14,480 acres in fee simple ownership. On the refuge, 11,000 acres are brackish marsh, 1,500 acres are longleaf pine savanna, 150 acres are brackish shrub, 125 acres are pond pine woodland, 100 acres are bay forests, 100 acres are low pocosin, and 50 acres are cypress-gum swamp. These habitats support a variety of wildlife species, including waterfowl, shorebirds, wading

birds, marsh birds, and neotropical migratory songbirds.

The refuge hosts more than thirty thousand visitors annually who participate in hunting, fishing, wildlife observation, wildlife photography, and environmental education and interpretation.

Authority: This notice is published under the authority of the National Wildlife Refuge System Improvement act of 1997, Public Law 105–57.

Dated: September 7, 2005.

Cynthia K. Dohner,

Acting Regional Director.

Editorial Note: This document was received at the Office of the Federal Register on February 9, 2006.

[FR Doc. 06–1347 Filed 2–13–06; 8:45 am]

BILLING CODE 4310–55–M

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

Receipt of an Application and Availability of Environmental Assessment for an Incidental Take Permit for Commercial Development in Lake County, FL

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice.

SUMMARY: Richard E. Bosserman and Charles E. Bosserman III (Applicants) request an incidental take permit (ITP) for a 10-year term, pursuant to section 10(a)(1)(B) of the Endangered Species Act of 1973, as amended (Act). The Applicants anticipate taking sand skinks (*Neoseps reynoldsi*) and bluetail mole skinks (*Eumeces egregious*) (cumulatively referred to as skinks) resulting from land clearing and site preparation for commercial construction on about 75 acres near Clermont, Lake County, Florida.

The Applicants' HCP describes the mitigation and minimization measures proposed to address the effects commercial construction on the skinks. These measures are outlined in the **SUPPLEMENTARY INFORMATION** section below. We announce the availability of the ITP application, HCP, and an Environmental Assessment (EA).

DATES: Written comments on the ITP application, EA, and HCP should be sent to the Service's Regional Office (see **ADDRESSES**) and should be received on or before April 17, 2006.

ADDRESSES: Persons wishing to review the application, EA, and HCP may obtain a copy by writing the Service's Southeast Regional Office, Atlanta, Georgia. Please reference permit number TE105732–0 in such requests. Documents will also be available for public inspection by appointment during normal business hours at the Regional Office, 1875 Century Boulevard, Suite 200, Atlanta, Georgia 30345 (Attn: Endangered Species Permits), or Field Supervisor, U.S. Fish and Wildlife Service, 6620 Southpoint Drive South, Suite 310, Jacksonville, Florida 32216–0912.

FOR FURTHER INFORMATION CONTACT: Mr. David Dell, Regional HCP Coordinator, (see **ADDRESSES** above), telephone: 404/679–7313, facsimile: 404/679–7081; or Mr. Michael Jennings, Fish and Wildlife Biologist, Jacksonville Field Office, Jacksonville, Florida (see **ADDRESSES** above), telephone: 904/232–2580, ext. 113.

SUPPLEMENTARY INFORMATION: If you wish to comment, you may submit comments by any one of several methods. Please reference permit number TE105732–0 in such comments. You may mail comments to the Service's Regional Office (see **ADDRESSES**). You may also comment via the internet to *david_dell@fws.gov*. Please submit comments over the internet as an ASCII file avoiding the use of special characters and any form of encryption. Please also include your name and return address in your internet message. If you do not receive a confirmation from us that we have received your internet message, contact us directly at either telephone number listed below (see **FURTHER INFORMATION CONTACT**). Finally, you may hand deliver comments to either Service office listed below (see **ADDRESSES**). Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Individual respondents may request that we withhold their home address from the administrative record. We will honor such requests to the extent allowable by law. There may also be other circumstances in which we would withhold from the administrative record a respondent's identity, as allowable by law. If you wish us to withhold your name and address, you must state this prominently at the beginning of your comments. We will not, however, consider anonymous comments. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety.

The blue-tailed mole skink is a small, slender lizard that occupies xeric upland habitats in central peninsular Florida. It requires open, sandy patches interspersed with vegetation. The blue-tailed mole skink is highly adapted for life in the sand; it spends the majority of time below the surface where it moves through loose sand in search of food, shelter, and mates. Much of the blue-tailed mole skink's historic habitat has been destroyed or degraded because of fragmentation due to residential, commercial, and agricultural development. Habitat protection and management are essential for the survival of this species.

The sand skink is a small, semi-fossorial lizard that occurs on the sandy ridges of interior central Florida from Marion County south to Highlands County. The species is vulnerable because of habitat loss due to conversion to residential, commercial, and agricultural uses and from habitat degradation due to fire exclusion. The recovery of sand skinks will require restoration of habitat and possible reintroduction of individuals into successfully restored habitat.

Xeric uplands within the Lake Wales Ridge have declined in distribution and ecological quality over the past 100 years. Urban and agricultural development in this area has resulted in substantial losses of habitat; by the early 1980's habitat loss was estimated at 66 percent. Since then additional losses are attributed to increasing urban growth, particularly in the northern portions of the action area. Severe freezes during the mid-1980's also resulted in a shift in citrus production from north central Florida to south Florida which resulted in further loss of xeric uplands. Recent estimates indicate that 70 to 80 percent of the xeric uplands in Florida have been lost or degraded. Within the Lake Wales Ridge, about 85 percent of xeric uplands have been lost.

In addition to the direct destruction of xeric uplands within the Project area, increasing fragmentation has resulted in the degradation of many of the remaining parcels of habitat. These xeric communities require periodic fire to maintain their ecological and biological functions and values. Urban and agricultural uses now interspersed between xeric upland habitats do not allow the natural periodicity or magnitude of fires that once spread across this xeric landscape. In most instances, fire suppression is practiced to protect human health and the safety of property. Lacking fire, xeric uplands tend towards more mesic conditions, which include denser vegetative canopies and more heterogeneous vegetative structure. Under these conditions, many of the species that


Land Use Study Area
Washington
Kinston
Craven
70
Bayboro
Pamlico Sound
Trenton
Jones
Pamlico
MCAS Cherry Point
Arapahoe
BT-11
Minnesott Beach
Neuse Forest
258
Onslow
Havelock
Carteret
Pumpkin Center
MCOLF Atlantic
Jacksonville
Piney Green
Newport
Beaufort
Verona
Swansboro
Dixon
MCALF Bogue
Sneads Ferry
Cape Lookout
North Topsail Beach
Surf City
Winston-Salem
Greensboro
Raleigh
Asheville
Charlotte
NC
Kinston
Jacksonville
Wilmington
Atlantic Ocean
Cherry Point AOI
Cities
Limited Access
Highways
Military Installation
Impacted Counties
0
10
20
Miles
20
0
20
40
Kilometers
N
W
E
S

Figure 3-2